

## WA-Trans Steering Committee Meeting Notes January 23, 2006

### Attendees:

Member	Association	Representing
Tareq Al-Zeer	WSDOT	WSDOT
Sam Bardelson	US Geological Survey Washington Liaison	The National Map
Michelle Blake	WSDOT GIS Data Administrator	WSDOT
Chuck Buzzard	Pierce County GIS	West side local government
David Cullom	WA. Utilities & Transportation Commission	Rail And Utility Needs
Tami Griffin	WSDOT Geographic Services	WA-Trans (Project Manager), Facilitator
Jason Guthrie	Lincoln County	County & City Governments
Jerry Harless	Puget Sound Regional Council	MPO's, RTPO's
Wendy Hawley	Census Bureau	US Bureau of Census
Michael Leierer	WSDOT Geographic Services	WA-Trans (Assistant Project Manager/ Technical Lead)
Dave Rideout	Spokane County Engineers Office	Spokane County
Ken Stallcup	WSDOT Contractor	WA-Trans Technical Writer
Cathy Udenburg	Walla Walla County	County & City Governments
Ian Von Essen	Spokane County GIS	E-911
Pat Whittaker	WSDOT Transportation Data Office	WSDOT Transportation Data Office
Tim Young	Washington Department of Fish and Wildlife	Natural Resource Organizations

### Not Attending:

Member	Association	Representing
Roland Behee	Community Transit	Transit Organizations
Elizabeth Stratton	WSDOT	Freight Interests
David Koch	WA Department of Information Service	Information Services Board – Project Oversight

- Introductions, Status Questions, Time Tracking, Action Item Review
- Front-end for data users (updated requirements)
- Front-end for data providers (required data and how to handle it)
- WA-Trans Database (Geo or Standard SQL)
- Crosswalk Classification Report
- Agreement Points and Census Boundaries
- Strategies for dealing with jurisdictions with no data
- Action Item Review

## **Introductions, Status Questions, Time Tracking, Action Item Review**

Framework Management Group - Sam spoke with Jeff Holm, Joy Paulus, etc. Jeff feels the enterprise architecture would replace the FMG. Hydro needs help and we need recommendations on what priorities should be focused on by EA Group. Tim is on that effort. We need to revisit that as part of

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the EA.

**Action Items:** Tim and Tami will work on how the EA affects WA-Trans. There is still no legal structure to support what WA-Trans wants to do. Tami will put on the agenda next meeting. Sam's action item is removed.

WSDOT City and County Roads Effort – Tami reported that WSDOT is trying to create a city county roads layer. They will use CAD to create the first set of county and city roads. WA-Trans would eventually replace this. Jerry wants PSRC to be involved. Michelle commented that this is the beginning phase. WSDOT has needs related to the LRS that don't include geocoding.

Census work on county boundaries - Wendy reports it is a very manual operation. Harris gets a file from the governments. Census inserts boundaries at HQ. There are no great answers for WA-Trans.

Jerry sent the Metropolitan Transportation System and portions of FFC information.

**Action Item:** Jerry will resend.

### **Front-end for data users (updated requirements)**

The group reviewed the updated document Michael provided. There was discussion on whether we keep Sections 2.1 - 2.1.2.5 or not. Tim thinks we need to keep it. You can serve these things with Open GIS Systems (OGS). It is pretty slow. In a feature service the attributes involve big long paths. Using open standards and we could use ESRI solution. We want clients to be able to use it in their environment. The user shall be able to connect to the data. We need to also emphasize the downloading part.

Tim thinks we should be providing feature service like Geo-One-Stop. The data model isn't set up that way.

Michael felt we need to document who our users are. If our users are institutional users that is quite different from the general public.

**Action Item:** Michael will add a requirement regarding who our users are.

Tareq is concerned about making it clear in the documentation that WA-Trans is not a GIS.

### **Front-end for data providers (required data and how to handle it)**

Tami provided explanation about how we are determining required fields in the database. There is concern that we don't require things that eliminate providers but we have to have referential integrity of the database. A lot of work on this will be done during the pilots.

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### **WA-Trans Database (Geo or Standard SQL)**

After discussions and reviews by ESRI of our database Tami, Michael and Michelle have a fundamental question for the Steering Committee. Do we want the final WA-Trans to be a Geodatabase? It was always decided that the working storage would be a geodatabase, but the actual WA-Trans repository was to be pure SQL. There is concern with keeping both databases in sync. Options include having all the tables registered in SDE. Chuck thinks the WSDOT will benefit from it being in a Geodatabase. Jerry feels okay as long as it can be output as we need. Tim asked if the transactional update system and data provided could be one? It could be or not. Ian commented that until ESRI moves to a 64-bit environment you have a precision issue. There are different precision issues at county and state level. Tim thinks it may be resolved in the 32-bit world. Cathy pointed out that using XML would reduce traffic.

**Action Item:** Tim will check on ESRI and precision.

### **Crosswalk Classification Report**

Michael took various classification systems and tried to match them up to see if it was possible to crosswalk data. He needs to work with Wendy and Pat and Tami provide contact at BIA.

Jerry commented that there were three metro transportation systems in Washington. They may use different classification systems. Vancouver, Spokane, Puget Sound. If we require functional class what about paths? Ex. - if mode is not roadway there is no functional class. Functional Class is a jurisdictional issue. It is used for different reasons. We may be able to remove USGS classification as they will use Census. Sam thinks the USGS will be replaced with Census.

**Action Items:** Jerry/Pat will provide Michael with contact at Vancouver and Tami has one in Spokane. Michael will remove the USGS class.

### **Agreement points and Census Boundaries**

King County is working on evaluating the agreement points Chuck provided them. Chuck worked with Mike on how to determine the agreement points. A meeting was held and the group agreed how they would handle the points and any issues. They are making sure that all arcs in the centerline files would have the county code associated with them so they can throw out duplicates. Tami wrote a letter and Chuck wrote letters and he is using those letters to try to get agreement points with all counties surrounding Pierce County. Ken will be documenting the process so we can try to develop templates. The biggest worry reported by Chuck was determining which county had the most accurate data. The majority of Pierce County boundaries are the center of two rivers that change alignment. One line defined as the terminus of a glacier that is melting.

As we were speaking Lincoln and Spokane County agreement points were established.

Both the Pierce County letter and the WA-Trans letter are appended to the end of this document.

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### **Strategy for dealing with jurisdictions with no data**

WA-Trans is looking at Census as a resource for data. Pat mentioned that the DOT does report on all roads including those that have "no data". To some extent the Census does have a complete road set. Wendy provided a very preliminary schedule about roads.

Ian commented that a lot of data is created for counties where they don't have their own data including data by Census, WSDOT, US Forest Service.

Major questions include:

1. How to acquire data and pick the best sources.
2. If we have funding to establish a GIS in a rural county how to set up maintenance and deal with turnover.

Cathy identified the Forest Service as having good information. E-911 is another source. Part of the funding is by getting info from positional accuracy. Provide inventory for rural (statewide) road data providers.

Pat identified CRIS as a data source. Cities are the weakest in terms of data sources for non-city governments.

Tami is concerned with cost and whom we may pilot with. How do we select them? Asotin, Garfield, and Whitman have no data and no plans to do it. Census will GPS drive them to produce 7.6 meter accuracy. Martin Janowski is a potential contact in Whitman County. NAIP is supposed to be 1-meter full cover if we want to develop the data.

**Action Items:** Cathy will check to see if those counties have CAD data that may work. Ian, Cathy and Wendy can itemize an outline process that we can agree to or not agree to. Since 22% of land is Forest Service Sam will try to find someone for us and maybe The National Park Service.

### **Next meeting and Action Item Review**

April 24<sup>th</sup> 2006

9:00 – 12:00

Seattle (Shoreline)

Rides will be provided from Olympia. Video-conferencing will be available from Spokane.

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## **Appendix A**

### **1.0 Web Portal**

#### **1.1 Web Portal Pages**

- 1.1.1 Provide a list of Transportation core data sets.
- 1.1.2 A web portal page will list additional supportive layers for the transportation core data sets.
- 1.1.3 Mapping functions will be available for navigation.
- 1.1.4 Mapping functions will be available identification of data sets and layers.
- 1.1.5 Core Transportation layers and metadata files will be available for distribution through the web portal.
- 1.1.6 The web portal will be composed of the following pages:
  - Framework overview
  - Web portal page
  - Interactive Web map page
  - Data Sets for Downloading
  - Disclaimers/Release of liability to be read before accessing mapping and data sets for downloading
  - Resource links for other framework and supporting data layer sets.

### **2.0 Accessing Data**

#### **2.1 Methods to allow user access to various data sets**

- 2.1.1 The web portal will provide links to the originating agency's website for downloading or accessing of data sets belonging to other agencies.
- 2.1.2 A metadata button will appear on the opening statewide view screen.
  - 2.1.2.1 When the metadata button is used the user will be given the minimum attributes available and the minimum accuracy standards for the various data in Framework.
  - 2.1.2.2 When the metadata button is used the user will be given a statement that indicates "Some data may be available with additional attributes and higher accuracy." *NOTE: (These areas could be color coded for easier identification by the viewer/user. Clicking on an area could bring up that metadata.) Additional Note: The assumption here is that the user is looking at a map showing areas that can be clicked.*
  - 2.1.2.3 The user will be presented information regarding when updates are scheduled and/or pending and an explanation of what "Periodicity of Updates" is.
  - 2.1.2.4 The boundaries for these areas are to be determined by the originating agency and can be a representation of their UGA or other determining factor, such as transit district or fire district.
  - 2.1.2.5 The user shall be able to connect to the data through the ArcIMS servlet connector to enable clients to use the data directly in ArcMap, ArcExplorer and ArcPad environments. *NOTE: Review of WSDOT's security needs and programming resources will define the feasibility of allowing access through an ArcIMS Servlet Connector or Java Connector allowing ArcMap, ArcExplorer and ArcPad clients to access the data.*

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- 2.1.2.6 The user shall be able to choose to view data by boundary or by originating agency within the boundary.
- 3.1.2.7 Data sets would be available based upon their geographic extents, e.g. by state, county or regionally significant areas.
- 2.1.2.8 The user shall be able to access a page that would list everything they can download.
- 2.1.2.9 The user shall be able to view image maps that will give a method of grabbing areas of data.
- 2.1.2.10 Tami identified the possibility of using the Geospatial One Stop Portal, in the future, to allow more real time access.
- 2.1.2.11 The ability to be able to do x, y extents will also be included. Pre-clipped or special jurisdictional extents can be created and available based on the following: the partners can select one or two (decide the number later) pre-clipped extents which can be made available from a selection list, when there are several requests for a particular x, y extent a pre-clipped extent may be created for all to use.
- 2.1.2.12 Spatial representation/ static/ non-GIS environment. The user clicks on a location on a map in an area and then the system looks for reasonable matches from the list of available extents to download and provides a list of metadata for the options. It could zoom or pan, but would be static like an Acrobat file.
- 2.1.2.13 Could be a very limited live GIS environment with "skeletal" data to orient the user. The user has the ability to select jurisdictions and then pick a data set and extract them.
- 2.1.2.14 Another approach is to click x,y min/max extent. It could relate to the Universal Translator.

## **2.2 Data Set Ownership**

- 2.2.1 When viewing areas ownership of datasets that are not part of the originating agency's inventory will be highlighted to alert the viewer of other agency responsibility.
- 2.2.2 There will be links to the originating agency's website for downloading or accessing of data sets belonging to other agencies or entities.
- 2.2.3 Metadata for data sets, belonging to other agencies or entities, would be the responsibility of the provider.
- 2.2.4 *NOTE: If we gave each entity an initial boundary, which included their UGA +/- that will at least keep most changes within the box. Since we are giving our network an "ownership" code, it should be simple enough to color or line code the "city" roads different than the "county" roads. We could also provide the user the choice to view/download by boundary or by "ownership" within the box.*

## **2.3 Downloading of Data Sets**

- 2.3.1 Download of the data will be available through the web map page by selecting the data to be downloaded from the map.
- 2.3.2 Download of the data will be available through a link to a web page that enables a direct download of the data set, that enables a direct download of the original data set, in the preferred format.
- 2.3.3 The user shall be able to download data through a traditional resource page that lists the data sets available by description, format and location. *NOTE: Downloading complete data sets through a traditional access page in tabular format will provide services for clients that may not have adequate Internet access to support an interactive web page.*
- 2.3.4 The user shall be able to choose to download data by boundary or by originating agency within the boundary.

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2.3.5 When a user selects to download data, they will first be given the option to download its corresponding metadata.

2.3.6 If the user decides to not download the metadata, an alert to the user stating, “WA-Trans is not responsible for incorrect assumptions made about the data resulting from not reviewing the metadata.” will appear before any download will begin.

2.3.7 A user shall be able to query out past and future (planned data) data sets.

2.3.8 Past and future roads will not be the default data sets.

2.3.9 There will be security that will limit a users ability to query for past or future. *NOTE: This could be based on user group. It is also possible that this could be hidden except for selected users or groups.*

2.3.10 The security system will make sure they are authorized to access that data. A disclaimer will be provided regarding the limitation of the data.

2.3.11 The translator will be available for formatting the data and projecting it as needed by the data user.

2.3.12 Once a user has downloaded data to their satisfaction, they can then put it back with the rest of their GIS transportation data and make use of it like their own data.

## **2.4 How to Reference Data Sets (NOTE: Add the “How To” in this section)**

2.4.1 Reference layers listed below are to be used for viewing reference and interactive mapping purposes only and will not be available for downloading from the web site.

2.4.2 The following reference data sets are examples of what may be included in a list:

1. County Boundaries
2. Multiple Counties
3. Urbanized Areas (census boundaries)
4. Reservation boundaries
5. Hydrography/Large water boundaries
6. Statewide
7. Raster Data

## **3.0 Map Functions**

3.1 Map functions to be made available:

- Zoom in/out
- Full view
- Pan
- Search by:
  - Location (regional, county or city)
  - Identifiers (street names or intersections)
  - Jurisdictional agency (federal, state or local authority)
  - Urban Growth Area
- Query Data
- Export Data by
  - Selection
  - Data set name
  - All Data Sets shown

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## **4.0 Formats**

### **4.1 Formats to be made available for Download/Access**

1. Shape files, ArcGIS feature data sets for ArcSDE, .dxf or .dgn,
2. .MDB, Excel, DBF, .txt,
3. JPEG, TIFF, bmp or GIF

### **4.2 Projection- Washington State Plane South NAD 83 only. (.PRJ files to be provided with shape files)**

### **4.3 Multiple versions of re-projected data will be maintained for download.**

## **5.0 Security**

### ***5.1 WA-Trans Web Based Security System must be able to:***

#### **1) Identify User**

- a) Via some combination of IP address, Login Account, Password, NT authentication, etc.

#### **2) Identify User needs for specific restricted WA-Trans Data**

- a) Includes spatial extent of request
- b) Use Restrictions associated with request
- c) Licensing Requirements of data request
- d) Fee Requirements of data request

#### **3) Provide for User Profiles; Profiles would include:**

- e) Identification of User, Agency, Organization Company, etc.
- f) Identification of User Data Access Levels (by layer & attribute)
- g) Identification of existing Licensing, Fee Payments

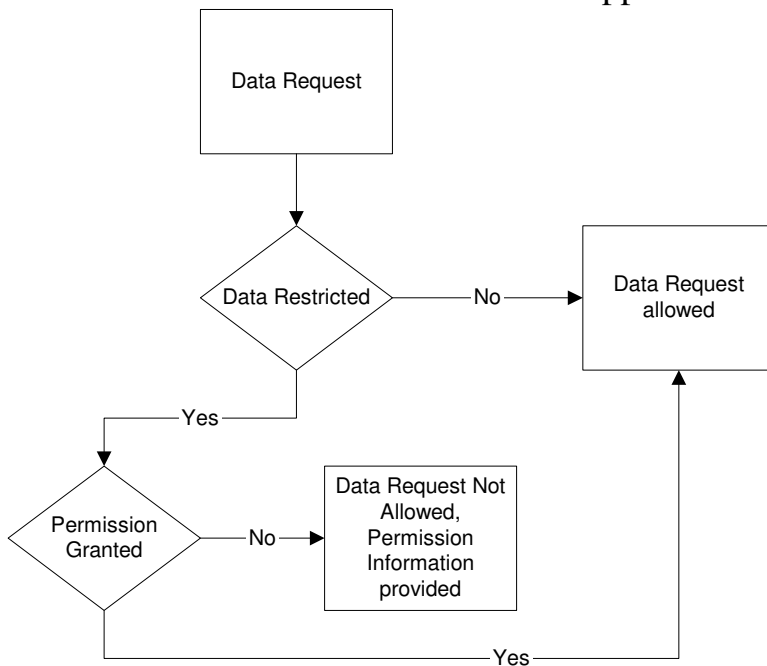
#### **4) Transact Data Provider required License Agreements & Use Fees in order for User to access restricted data in timely manner.**

### ***5.2 Basic Security Diagram***

A concern is the desire of organizations to limit the use of data to only those who can access this information. Not all information is public and the desire is not to release it to the public at all or immediately without any caveats (e.g. private utilities or local governments). These organizations may not provide this information if a certain amount of security is not provided.



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**Key Questions:**

- 1.) Who can grant permission?
- 2.) Who have they granted it to?

### ***5.3 Reasons to access Restricted Transportation Data***

- 1) The desire to access state and local governmental transportation data whose maintenance has been outsourced and copyrighted by private sector.
- 2) The desire to access governmental transportation data exempted from open records laws, e.g. tribal transportation data.
- 3) The desire to access transportation data associated with private land holdings (e.g. private timber companies, agribusiness, etc.).
- 4) The desire to use third party application utilities, e.g., private sector based heuristic routing applications, etc.
- 5) The desire to use private sector transportation value added data (e.g., private sector routing attributes, intersection turntables, impedance values, etc.),
- 6) The desire to use county & city transportation data where there is embedded private sector data within their road data e.g. King County with Kroll Map Company.

## **20.0 Miscellaneous**

20.1 The group reviewed the updated document Art provided called "Access for Data User/Downloading Files". There was discussion regarding whether we want to give them an option of downloading metadata. It was decided that this was not a good precedent to set. We still need to give them a disclaimer, but we want them to receive the metadata even if they ignore it.

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20.2 There was some discussion of platform. We don't want this to be an interactive data service. We want them to identify a geographic extent for clipping, but don't want to provide robust capability beyond that. Appendix E contains the document presented at the meeting.

20.3 There is a long-term goal of being able to provide some complex clipping of both data and metadata based on X, Y coordinates.

20.4 There was a significant discussion of describing the environment. Several of these things are described in various sections of the document, however it wasn't clear to the group what the environment would be.

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### Appendix B – Classification Crosswalk

Fed_Func_Cls_Surr_Key	Fed_Func_Cls_Descr	Fed_Func_Cls_Cd	St_Func_Cls_Cd	USGS	BIA	CFCC (Census)	MTFCC (Census)
1	Rural-Interstate	1	R5	Class 1	Class 2	A1-A18, A21-A28	S1100
2	Rural-Principal-Arterial	2	R1	Class 1	Class 2	A21-A28, A31-A38	S1100
3	Rural-Minor-Arterial	6	R2	Class 1	Class 2	A31-A38	S1200
4	Rural-Major-Collector	7	R3	Class 1	Class 2	A31-A38	S1200
5	Rural-Unclassified	9	R4	Class 2	Class 3	A41-A48	S1400
6	Urban-Interstate	11	U5	Class 1	NA	A1-A18, A21-A28	S1100
7	Urban-Principal-Arterial	12	U1	Class 1	NA	A21-A28, A31-A38	S1100
8	Urban-Other-Principal-Arterial	14	U1	Class 1	NA	A31-A38	S1100
9	Urban-Minor-Arterial	16	U2	Class 1	NA	A21-A28, A31-A38	S1200
10	Urban-Collector	17	U3	Class 1	NA	A41-A48	S1200
11	Urban-Unclassified	19	U4	Class 2	NA	A41-A48, A51-A53, A60-A65, A70-A74	S1400
12	Rural-Minor-Collector	8	NULL	Class 2	Class 4	A41-A48, A51-A53, A60-A65, A70-A74	S1400
	NA	NA	NA	Class 3	Class 3, Class 4	A41-A48, A51-A53, A60-A65, A70-A74	S1200, S1400
	NA	NA	NA	Class 4	Class 3	A71-A74	S1400, S1500
	NA	NA	NA	Class 5	Class 5	A71-A74	S1500, S1710, S1730, S1740, S1750, S1780, S1820, S1830

The first four columns are from the WSDOT Common Functional Class database table used by various WSDOT applications as a crosswalk within WSDOT. The USGS, BIA and Census data was entered into this spreadsheet by me and then related to the Federal Functional Class (Fed\_Func\_Cls\_Cd) column and Description (Fed\_Func\_Cls\_Descr). Other sheets contain details of the data used on this page.

NOTE: The relationships on this page are intended to be as accurate as I can make them at this time, but the goal was to develop a process that can be used as a crosswalk.

I attempted to make appropriate decisions regarding where one classification was related to another.

These relationships need to be extensively reviewed and should be done by those who have a detailed understanding of their classification systems.

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**Appendix C – Sample Agreement Point Letters**

December 7, 2005

Michael J. Berman  
GIS Program Manager  
Department of Transportation, Metro Transit Division  
201 S. Jackson St., M.S. KSC-TR-0331  
Seattle, WA 98104-3856

Dear Mr. Berman:

I am writing this letter to provide information regarding the implementation of the Washington Transportation Framework for GIS (WA-Trans) Project. WA-Trans will be a GIS database containing transportation data about roads, railroads, ferries, aviation, ports and non-motorized transportation infrastructure using data from local governments, tribes, state and federal agencies. WA-Trans will include basic core information about the statewide transportation network such as address ranges, speed limits, number of lanes, average daily travel, multiple types of classifications, etc. WA-Trans will also include location referencing systems that enable non-core descriptive information to be associated to the statewide transportation network for use in analysis, mapping and as a key data source for software applications. WA-Trans is being structured to support regular updates of data and over time will become the repository for the best GIS information about transportation systems statewide. It is being developed collaboratively with a multi-jurisdictional partnership. Pierce County as well as several others has actively collaborated on this project from the beginning in an effort to ensure it will meet the needs of local governments statewide.

Currently the WA-Trans Project is working on a pilot to implement a two-county dataset in Pierce and King Counties. This pilot will provide the blueprint for various processes and agreements between WA-Trans and data providers. Among the processes being developed during this pilot is the critical effort to establish agreement points. Agreement points can occur where transportation infrastructure (usually roads) crosses boundaries and the data provider changes. Since WA-Trans is committed to having the data provided by the source closest to that data (local governments for roads and other local infrastructure) it is important that these representative segments meet at boundaries. We are investigating software to support such integration, but would prefer to have the data providers have more control of changes made to their data. Agreement points allow the local providers to determine, in negotiation with the provider across the connecting border, where those infrastructures actually meet and then change it in their own dataset in support of long-term integration. Pierce County is working on agreement points with all their partners in anticipation of implementation of more of WA-Trans.

Detailed information about our project, partnerships, and pilots can be found at the website: [www.wsdot.wa.gov/mapsdata/transframework/default.htm](http://www.wsdot.wa.gov/mapsdata/transframework/default.htm). I invite you to look at this site and see what we are doing and who is participating. Our partnerships include many cities, counties, and state agencies across Washington State and we also have federal agencies involved. These groups all agree

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that they will benefit from this project and want a role in guiding it. We value your contribution as well.

Please feel free to contact me at 360-709-5513 or via e-mail at [griffit@wsdot.wa.gov](mailto:griffit@wsdot.wa.gov), should you have any questions.

Sincerely,

Tami Griffin  
GIS Project Manager

TG:tg

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Monday, January 09, 2006

Diane Mark, Kitsap County GIS Manager  
Information Services / GIS Division  
Kitsap County Courthouse  
614 Division Street  
Port Orchard, WA 98366

Dear Diane,

Washington State Department of Transportation has taken the lead in developing a Transportation Framework. This framework, called WA-Trans is a statewide database of location-based transportation data for use in Geographic Information. WA-Trans will contain the best data available from all levels of government. The data will be seamless, connected, consistent and continuous between jurisdictional boundaries and other framework layers and it will be continuously updated and improved. WA-Trans will be useful for a large set of business needs. For more information please see the attached letter from Tami Griffin, WA-Trans Project Manager and go to the WA-Trans website at <http://www.wsdot.wa.gov/mapsdata/TransFramework/default.htm>.

Pierce County is a participating member of the WA-Trans Steering Committee and is a participant in the WA-Trans Puget Sound Pilot Project. The current geographic area for phase 1 of the pilot includes King and Pierce Counties. Phase 2 will include Kitsap and Snohomish Counties. The final phase will be to extend the framework to surrounding counties. Various objectives are sought for the WA-Trans Pilot with the first step being the establishment of agreement points between jurisdictions. Pierce County and King County have established agreement points at locations where the transportation network crosses the county boundary. After agreement points were established, the counties split the road segments in their transportation system at these points. This process allows WA-Trans to connect road layers obtained from these jurisdictions.

My purpose in sending you this letter is to start the process of establishing agreement points with the counties surrounding Pierce County. If you are agreeable, I would like to send you the Pierce County Boundary and a point layer of possible agreement points. I will also include metadata for our roads layer so you can evaluate the accuracy between our transportation networks before commenting on the agreement points. Establishing agreement points will allow us to transfer transportation data between counties and the DOT much more efficiently.

I look forward to your reply,

Chuck Buzzard, Senior Programmer  
Pierce County Information Services / GIS Division  
950 Fawcett Ave, Suite 300  
Tacoma, WA 98422  
(253) 798-7703  
[cbuzzar@co.pierce.wa.us](mailto:cbuzzar@co.pierce.wa.us)